P19597.P01	Attorney Docket No.	P19597	Total Pages	
UTILITY PATENT APPLICATION TRANSMITTAL (Only for new nonprovisional applications under 37 CFR 1.53(b))	Inventor(s) or Application Identifier Tetsuji SHONO			
	Title: DIGITAL CAMERA HAVING A TILTING/SWINGING MECHANISM			

09/20/00 JC985 U.S. PTO

09/20/00 JC985 U.S. PTO 09/665412

ADDRESS TO: **Assistant Commissioner for Patents**
Box Patent Application
Washington, DC 20231

APPLICATION ELEMENTS	ACCOMPANYING APPLICATION PARTS
1. ☒ Fee Transmittal Form	8. ☒ Assignment Papers (cover sheet & document(s))
2. ☒ Specification [Total Pages 14] (preferred arrangement set forth below) - Descriptive title of the Invention - Cross References to Related Applications - Statement Regarding Fed sponsored R & D - Reference to Microfiche Appendix - Background of the Invention - Brief Summary of the Invention - Brief Description of the Drawings (if filed) - Detailed Description - Claim(s) - Abstract of the Disclosure	9. ☐ 37 CFR 3.73(b) Statement (when there is an assignee) ☐ Power of Attorney 10. ☐ English Translation Document (if applicable) 11. ☐ Information Disclosure Statement (IDS)/PTO-1449 ☐ Copies of IDS Citations 12. ☐ Preliminary Amendment 13. ☒ Return Receipt Postcard (MPEP 503) (Should be specifically itemized)
3. ☒ Drawing(s) (35 USC 113) [Total Sheets 2]	
4. ☒ Oath or Declaration [Total Pages 3] a. ☒ Newly executed (original or copy) ☐ Unexecuted b. ☐ Copy from a prior application (37 CFR 1.63(d)) (for continuation/divisional with Box 18 completed) **[Note Box 5 below]** i. ☐ DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).	14. ☐ Small Entity Statement(s) ☐ Statement filed in prior application, Status still proper and desired 15. ☐ The prior application is assigned of record to _____. 16. ☒ Foreign priority claimed a. ☒ Claim of Priority b. ☒ Certified Copy of Priority Document(s) 17. ☐ Other: _____
5. ☐ Incorporation By Reference (useable if Box 4b is checked) The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.	
6. ☐ Microfiche Computer Program (Appendix)	
7. ☐ Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary) a. ☐ Computer Readable Copy b. ☐ Paper Copy c. ☐ Statement verifying identity of above copies	

18. **If a CONTINUING APPLICATION,** check appropriate box and supply the requisite information:
☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior Application No. _____/_____, filed _____.

19. ☐ Amend the specification by inserting before the first line the sentence:
This application is a __ continuation-in-part, __ continuation, __ division, of Application No. _____/_____, filed _____.

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9/20/00
Date

Signature

33,329

Bruce H. Bernstein, Reg No. 29,027
Typed or Printed Name

P19597.P02

FEE TRANSMITTAL

Complete if Known	
Application Number	Not Yet Assigned
Filing Date	Concurrently Herewith
First Named Inventor	T. SHONO
Group Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket Number	P19597

TOTAL AMOUNT OF PAYMENT ($)730.00

METHOD OF PAYMENT (check one)

1. ☒ The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:

Deposit Account Number 19-0089

Deposit Account Name GREENBLUM & BERNSTEIN, P.L.C.

☒ Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17, including any required extension of time fees in any concurrent or future reply requiring a petition for extension of time for its timely submission (37 CFR 1.136(a)(3))

☐ Charge the Issue Fee Set in 37 CFR 1.18 at the Mailing of the Notice of Allowance, 37 CFR 1.311(b)

2. ☒ Payment Enclosed:

☒ Check ☐ Money Order ☐ Other

FEE CALCULATION (fees effective 11/13/99)

1. FILING FEE

Large Entity Fee Code	($)	Small Entity Fee Code	($)	Fee Description	Fee Paid
101	690	201	345	Utility filing fee	690
106	310	206	155	Design filing fee	
107	480	207	240	Plant filing fee	
108	690	208	345	Reissue filing fee	
114	150	214	75	Provisional filing fee	

SUBTOTAL (1) ($) 690

2. CLAIMS

		Extra		Fee from below		Fee Paid
Total Claims	7 -20=	0	x	18	=	0
Independent Claims	2 -3=	0	x	78	=	0
Multiple Dependent Claims			x	260	=	0

Large Entity Fee Code	($)	Small Entity Fee Code	($)	Fee Description
103	18	203	9	Claims in excess of 20
102	78	202	39	Independent claims in excess of 3
104	260	204	130	Multiple dependent claim
109	78	209	39	Reissue independent claims over original patent
110	18	210	9	Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($) 0.00

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	($)	Small Entity Fee Code	($)	Fee Description	Fee Paid
105	130	205	65	Surcharge - late filing fee or oath	
127	50	227	25	Surcharge - late provisional filing fee or cover sheet.	
139	130	139	130	Non-English specification	
147	2,520	147	2,520	For filing a request for reexamination	
112	900*	112	900*	Requesting publication of SIR Prior to Examiner action	
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for response within 1st month	
116	380	216	190	Extension for response within 2nd month	
117	870	217	435	Extension for response within 3rd month	
118	1,360	218	680	Extension for response within 4th month	
128	1,850	228	925	Extension for response within 5th month	
119	300	219	150	Notice of Appeal	
120	300	220	150	Filing a brief in support of an appeal	
121	260	221	130	Request for oral hearing	
138	1,510	138	1,510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive unavoidably abandoned application	
141	1,210	241	605	Petition to revive unintentionally abandoned application	
142	1,210	242	605	Utility issue fee (or reissue)	
143	430	243	215	Design issue fee	
144	580	244	290	Plant issue fee	
122	130	122	130	Petitions to the Commissioner	
123	50	123	50	Petitions related to provisional applications	
126	240	126	240	Submission of IDS	
581	40	581	40	Recording each patent assignment per property (times number of properties)	40
146	760	246	380	Filing a submission after final rejection (37 CFR 1.129(a))	
149	760	249	380	For each additional invention to be examined (37 CFR 1.129(b))	
Other fee (specify)					
Other fee (specify)					

SUBTOTAL (3) ($) 40

*Reduced by Basic Filing Fee paid

SUBMITTED BY				Complete (if applicable)	
Typed or Printed Name	Bruce H. Bernstein			Reg. Number	29,027
Signature	Leslie J. Paperner Reg No. 33,339	Date	9/20/00	Deposit Account User ID	

DIGITAL CAMERA HAVING A TILTING/SWINGING MECHANISM

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a digital camera provided with a tilting/swinging mechanism.

2. Description of the Related Art

In conventional tilting/swinging photography with a camera using sensitive film, the photographic lens is moved (tilted or swung) relative to the camera body in which the sensitive film is fixedly positioned. More specifically, conventional tilting/swinging photography with a camera using sensitive film is known for being able to sharply focus entirely on a surface of an object which is inclined to a plane orthogonal to the optical axis of the photographic lens by tilting or swinging the optical axis of the photographic lens relative to the direction normal to the film plane. In theory, the camera can be sharply focused entirely on a surface of an object which is inclined to a plane orthogonal to the optical axis of the photographic lens by making the extended surface of the film surface, the extended surface of the object surface, and the extended surface of a lens surface intersect one another along a straight line, according to the Scheimpflug principle.

In such conventional tilting/swinging photography, it is necessary to use a complicated mechanism for tilting or swinging the lens mount plate to which the photographic lens is fixed relative to the camera body, which inevitably increases the size of the camera body. In the case of performing the tilting/swinging photography with a digital camera, if the tilting/swinging mechanism designed for a camera using sensitive film is applied to the digital camera, the image plane tends to move largely relative to the sensitive surface of the image pick-up device (e.g., a CCD) of the digital camera, because the image pick-up device is generally smaller than a film surface (the sensitive surface of a film frame).

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a digital camera having a simple tilting/swinging mechanism which does not increase the size of the camera body, and makes it possible to perform tilting/swinging photography with little movement of the image plane relative to the sensitive surface of the image pick-up device of the digital camera.

To achieve the object mentioned above, according to the present invention, a digital camera is provided, including a photographic lens that is provided on a camera

body of the digital camera so that an optical axis of the photographic lens is stationary with respect to the camera body; an image pick-up element on which an image of an object formed by the photographic lens, is impinged; and a tilting/swinging mechanism, provided in the camera body, wherein the tilting/swinging mechanism can cause a tilting or (and) swinging movement of the image pick-up element relative to a plane orthogonal to the optical axis.

Preferably, the tilting/swinging mechanism is designed so that the image pick-up element can be operated to rotate about a point of intersection between the optical axis and a sensitive surface of the image pick-up element.

In an embodiment, the tilting/swinging mechanism includes a mount to which the image pick-up element is fixed, the mount having a convex surface; and a base fixed to the camera body, the base having a concave surface having a radius of curvature corresponding to a radius of curvature of the convex surface. The mount is mounted on the base with the convex surface being slidable on the concave surface. Preferably, the tilting/swinging mechanism further includes an operation member which is fixed to the mount so that the mount can be moved relative to the base by operating the operation member.

In an embodiment, the tilting/swinging mechanism includes a mount to which the image pick-up element is fixed,

the mount having a convex spherical surface having a center coincident with a point of intersection between the optical axis and a sensitive surface of the image pick-up element; and a base fixed to the camera body, the base having a concave spherical surface having a radius of curvature corresponding to a radius of curvature of the convex spherical surface. A sliding movement of the convex spherical surface on the concave spherical surface causes the image pick-up element to rotate about the point of intersection. Preferably, an operation member is provided, which is fixed to the mount so that the mount can be moved relative to the base by operating the operation member.

According to another aspect of the present invention, a digital camera is provided, having a photographic lens and an image pick-up element, the photographic lens being provided on a camera body of the digital camera so that an optical axis of the photographic lens is stationary with respect to the camera body, an image of an object to be photographed being impinged on the image pick-up element through the photographic lens, the digital camera includes a tilting/swinging mechanism, provided in the camera body, wherein the tilting/swinging mechanism can cause a tilting or (and) swinging movement of a sensitive surface of the image pick-up element relative to a plane orthogonal to

the optical axis. The tilting/swinging mechanism includes a movable member to which the image pick-up element is fixed, and a stationary member to which the movable member is connected so that the movable member can move relative to the stationary member so as to tilt or swing the image pick-up element relative to the plane.

The present disclosure relates to subject matter contained in Japanese Patent Application No.11-266542 (filed on September 21, 1999) which is expressly incorporated herein by reference in its entirety.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be discussed below in detail with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of fundamental elements, which support an image pick-up device, of an embodiment of a tilting/swinging mechanism according to the present invention;

Figure 2 is a schematic sectional view of a digital camera having the tilting/swinging mechanism shown in Figure 1, taken along the line II-II in Figure 1; and

Figure 3 is a block diagram of an image pick-up system of the digital camera shown in Figure 2.

DESCRIPTION OF THE PREFERRED EMBODIMENT

An embodiment of a digital camera according to the present invention is provided with an image pick-up system shown in Figure 3. As shown in Fig. 3, this system includes an image pick-up element (e.g., a CCD) 11, a photographic lens 18, an LCD viewfinder 21, a recording medium (e.g., an internal memory) 22, an operation switch 23 and a system control circuit 24. An object image is focused on the sensitive surface of the image pick-up element 11 through the photographic lens 18. The image pick-up element 11 converts the object image focused on the sensitive surface thereof into a picture signal. In accordance with an operation of the operation switch 23, the system control circuit 24 selects either a finder mode, in which the picture signal is viewed through the LCD viewfinder 21, or a photographing mode, in which the picture signal is recorded in the recording medium 22.

Fig. 2 is a schematic sectional view of a digital camera of the present embodiment according to the present invention. The digital camera is not provided with a mechanism for tilting or swinging the photographic lens 18 relative to the camera body 10. The photographic lens 18 is supported by the camera body 10 so that the optical axis 20 of the photographic lens 18 is stationary with respect to the camera body 10.

The image pick-up element 11, which is positioned

behind the photographic lens 18 (below the photographic lens 18 as viewed in Fig. 2), is fixed to a front face (top face as viewed in Fig., 2) of a mount (movable member) 12 at a position where an image formed through the photographic lens 18 is focused on the sensitive surface 19 of the image pick-up element 11. The image obtained through the image pick-up element 11 can be seen through the LCD viewfinder 21.

The mount 12 is provided on the rear face thereof with a convex spherical surface 13 having a center coincident with the intersection between the optical axis 20 and the sensitive surface 19 of the image pick-up element 11. The convex spherical surface 13 has a radius of curvature "R" as shown in Fig. 2. The mount 12 is mounted on a base (stationary member) 14 fixed to the camera body 10. The base 14 is provided on the front face thereof with a concave spherical surface 15 whose radius of curvature is identical to that of the convex spherical surface 13. Accordingly, the mount 12 is mounted on the base 14 with the convex spherical surface 13 being slidable on the concave spherical surface 15.

Fig. 1 is a perspective view of the image pick-up element 11, the mount 12 and the base 14 on which the mount 12 is mounted to be slidable thereon, showing the positional relationship amount the image pick-up element

11, the mount 12 and the base 14. The mount 12 is slidably mounted on the base 14 so as not to come off the base 14 by attracting the mount 12 on the base 14 by, for example, magnetic or spring force. The rear face of the base 14 is secured to the camera body 10. As can be seen in Fig. 2, a through hole 16 is formed between the base 14 and the camera body 10 to extend rearward from the concave spherical surface 15 to the outside of the camera body 10. The mount 12 is provided with an operation stick (operation member) 17 which extends rearward from substantially the center of the convex spherical surface 13 to project to the outside of the camera body 10 via the through hole 16. The mount 12 can be moved (tilted and/or swung) relative to the camera body 10 by operating the operation stick 17 from the outside of the camera body 10. The mount 12, the base 14 and the operation stick 17 constitute a tilting/swinging mechanism.

Upon a photographic operation, first of all the user views the object through the LCD viewfinder 21. When it is necessary to carry out the tilting/swinging operation so as to adjust perspective and depth of field, the user operates the operation stick 17 to tilt the sensitive surface 19 of the image pick up element 11 relative to the optical axis 20 horizontally and/or vertically while viewing the object through the LCD viewfinder 21. During

this tilting/swinging operation, the sensitive surface 19 of the image pick-up element 11 rotates about the center of the sensitive surface 19, namely, tilts relative to a plane orthogonal to the optical axis 20 without varying the position of the center of the sensitive surface 19 relative to the camera body 10. Therefore, the image pick-up element 11 can be tilted relative to the optical axis 20 horizontally and vertically without varying the position of the point of intersection between the optical axis 20 and the sensitive surface 19 of the image pick-up element 11. After this tilting/swinging operation is completed, a picture is taken in a photographing mode, which is selected via the operation switch 23.

In the illustrated embodiment, although the mount 12 is provided with a spherical surface (the convex spherical surface 13) while the base 14 is provided with a corresponding spherical surface (the concave spherical surface 15) so that the image pick-up element 11 can tilt to various angles without varying the position of the center of the sensitive surface 19 relative to the camera body 10, the present invention is not limited solely to this particular embodiment. For instance, the mount 12 can be provided with a cylindrical surface (e.g., a convex cylindrical surface) while the base 14 can provided with a corresponding cylindrical surface (e.g., a concave

cylindrical surface) so that the image pick-up element 11 can tilt either only horizontally (i.e., swing) or only vertically (i.e., tilt) without varying the position of the center of the sensitive surface 19 relative to the camera body 10.

As can be understood from the foregoing, according to a digital camera having a tilting/swinging mechanism to which the present invention is applied, a tilting/swinging mechanism having a simple structure can be obtained.

Obvious changes may be made in the specific embodiment of the present invention described herein, such modifications being within the spirit and scope of the invention claimed. It is indicated that all matter contained herein is illustrative and does not limit the scope of the present invention.

What is claimed is:

1. A digital camera comprising:

a photographic lens that is provided on a camera body of said digital camera so that an optical axis of said photographic lens is stationary with respect to said camera body;

an image pick-up element on which an image of an object formed by said photographic lens is impinged; and

a tilting/swinging mechanism provided in said camera body, wherein said tilting/swinging mechanism can cause at least one of tilting and swinging movement of said image pick-up element relative to a plane orthogonal to said optical axis.

2. The digital camera according to claim 1, wherein said tilting/swinging mechanism is designed so that said image pick-up element can be operated to rotate about a point of intersection between said optical axis and a sensitive surface of said image pick-up element.

3. The digital camera according to claim 1, wherein said tilting/swinging mechanism comprises:

a mount to which said image pick-up element is fixed, said mount comprising a convex surface; and

a base fixed to said camera body, said base comprising a concave surface having a radius of curvature corresponding to a radius of curvature of said convex

surface,

wherein said mount is mounted on said base with said convex surface being slidable on said concave surface.

4. The digital camera according to claim 3, wherein said tilting/swinging mechanism further comprises an operation member which is fixed to said mount so that said mount can be moved relative to said base by operating said operation member.

5. The digital camera according to claim 1, wherein said tilting/swinging mechanism comprises:

a mount to which said image pick-up element is fixed, said mount comprising a convex spherical surface having a center coincident with a point of intersection between said optical axis and a sensitive surface of said image pick-up element; and

a base fixed to said camera body, said base comprising a concave spherical surface having a radius of curvature corresponding to a radius of curvature of said convex spherical surface,

wherein a sliding movement of said convex spherical surface on said concave spherical surface causes said image pick-up element to rotate about said point of intersection.

6. The digital camera according to claim 5, further comprising an operation member which is fixed to said mount so that said mount can be moved relative to said base by

operating said operation member.

7. A digital camera having a photographic lens and an image pick-up element, said photographic lens being provided on a camera body of said digital camera so that an optical axis of said photographic lens is stationary with respect to said camera body, an image of an object to be photographed being impinged on said image pick-up element through said photographic lens, said digital camera comprising:

a tilting/swinging mechanism provided in said camera body, wherein said tilting/swinging mechanism can cause at least one of tilting and swinging movement of a sensitive surface of said image pick-up element relative to a plane orthogonal to said optical axis,

wherein said tilting/swinging mechanism comprises: a movable member to which said image pick-up element is fixed; and a stationary member to which said movable member is connected so that said movable member can move relative to said stationary member so as to at least one of tilt and swing said image pick-up element relative to said plane.

DIGITAL CAMERA HAVING A TILTING/SWINGING MECHANISM

ABSTRACT OF THE DISCLOSURE

A digital camera includes a photographic lens that is provided on a camera body of the digital camera so that an optical axis of the photographic lens is stationary with respect to the camera body; an image pick-up element on which an image of an object to be photographed, which is formed through the photographic lens, is impinged; and a tilting/swinging mechanism, provided in the camera body, for tilting and/or swinging the image pick-up element relative to a plane orthogonal to the optical axis.

Fig. 1

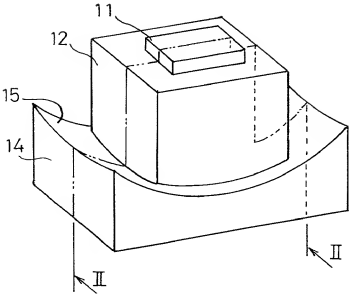


Fig. 2

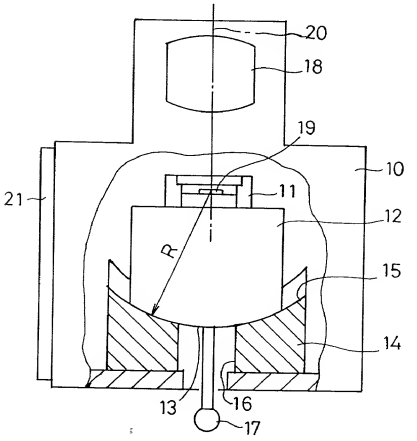
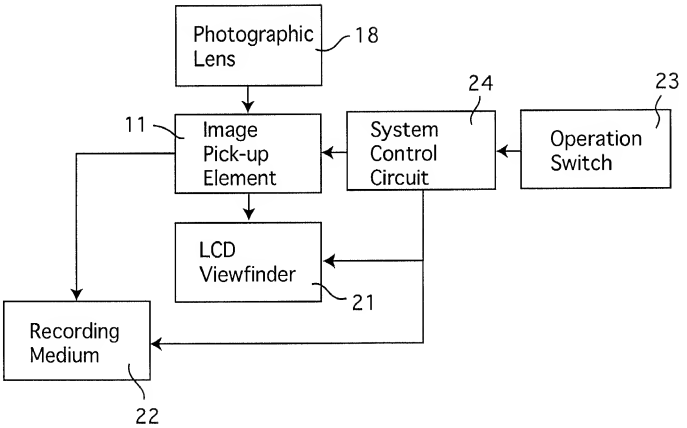


Fig. 3


Photographic Lens
18
24
23
11
Image Pick-up Element
System Control Circuit
Operation Switch
LCD Viewfinder
21
Recording Medium
22

Declaration and Power of Attorney For Utility or Design Patent Application
特許出願宣言書

Japanese Language Declaration

私は、下欄に氏名を記載した発明者として、以下のとおり宣言する：

私の住所、郵便の宛先および国籍は、下欄に氏名に続いて記載したとおりであり、

名称の発明に関し、請求の範囲に記載した特許を求める主題の本来の、最初にして唯一の発明者である(一人の氏名のみが下欄に記載されている場合)か、もしくは本来の、最初にして共同の発明者である(複数の氏名が下欄に記載されている場合)と信じ、

☐
☐
☐
☐

その明細書を

(該当するほうに印を付す)

☐ ここに添付する。

☐ _____ 日に出願番号

第 _____ 号として提出し、

☐ _____ 日に補正した。

(該当する場合)

私は、前記のとおり補正した請求の範囲を含む前記明細書の内容を検討し、理解したことを陳述する。

私は、連邦規則法典第37部第１章第56条に従い、本願の審査に所要の情報を開示すべき義務を有することを認める。

私は合衆国法典第35部第119条(a－d)項又は第365条(b)項に基づく、下記の外国特許出願又は発明者証出願、或いは第365条(a)項に基づく、少なくても米国以外の1ケ国を指名したPCT国際出願の外国優先権利益を主張し、更に優先権の主張に係わる基礎出願の出願日前の出願日を有する外国特許出願、又は発明者証出願或るいはPCT国際出願を以下に明記する：

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

DIGITAL CAMERA HAVING A TILTING/

SWINGING MECHANISM

the specification of which

(check one)

☒ is attached hereto

☐ was filed on _____ as

Application No. _____

and was amended on _____

(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code §119(a-d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the "No" box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed:

Prior foreign applications 先の外国出願			Priority claimed 優先権の主張	
11-266542 (P)	JAPAN	21/09/1999	☒ Yes あり	☐ No なし
(Number) (番号)	(Country) (国名)	(Day/Month/Year Filed) (出願の年月日)		
			☐ Yes あり	☐ No なし
(Number) (番号)	(Country) (国名)	(Day/Month/Year Filed) (出願の年月日)		
			☐ Yes あり	☐ No なし
(Number) (番号)	(Country) (国名)	(Day/Month/Year Filed) (出願の年月日)		

U.S. PTO Acceptance # 903

Japanese Language Utility or Design Patent Application Declaration

☐ その他の外国特許出願番号は別紙の追補優先権欄にて記載する。

☐ Additional foreign application numbers are listed on a supplemental priority sheet attached hereto.

私は、合衆国法典第35部第119条(e)項に基づく、下記の合衆国仮特許出願の利益を主張する。

I hereby claim the benefit under Title 35, United States Code §119(e) of any United States provisional application(s) listed below.

(Number) (番号)	(Day/Month/Year Filed) 出願の年月日
(Number) (番号)	(Day/Month/Year Filed) 出願の年月日
(Number) (番号)	(Day/Month/Year Filed) 出願の年月日

☐ その他の合衆国仮特許出願番号は別紙の追補優先権欄にて記載する。

☐ Additional provisional application numbers are listed on a supplemental priority sheet attached hereto.

私は、合衆国法典第35部第120条に基づく下記の合衆国特許出願、又は第365条(c)項に基づく合衆国を指名したPCT国際出願の利益を主張し、本願の請求の範囲各項に記載の主題が合衆国法典第35部第112条第1項規定の態様で、先の合衆国特許出願又はPCT国際出願に開示されていない限度において、先の出願の出願日と本願の国内出願日又はPCT国際出願日の間に有効となった連邦規則法典第37部第１章第56条に記載の特許要件に所要の情報を開示すべき義務を有することを認める。

I hereby claim the benefit under Title 35, United States Code §120 of any United States application(s), or §365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of Title 35, United States Code §112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

(Application No.) (出願番号)	(Day/Month/Year Filed) (出願の年月日)	(現況) (特許済み、係属中　放棄済み)	(Status) (patented, pending, abandoned)
(Application No.) (出願番号)	(Day/Month/Year Filed) (出願の年月日)	(現況) (特許済み、係属中　放棄済み)	(Status) (patented, pending, abandoned)

☐ その他の合衆国又は国際特許出願番号は別紙の追補優先権欄にて記載する。

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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Japanese Language Utility or Design Patent Application Declaration

委任状： 私は、下記発明者として、下記に明記された顧客番号を伴う以下の弁護士又は、代理人をここに選任し、本順の手続きを遂行すること並びにこれに関する一切の行為を特許商標庁に対して行うことを委任する。そして全ての通信はこの顧客番号宛に発送される。

顧客番号 7055

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(Supply similar information and signature for third and subsequent joint inventors.)